

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is rejected for the inclusion of the phrase "i.e." It is unclear to the examiner whether the intersection must form a plurality of hexagons, a honeycomb pattern, or both. For examination purposes, examiner interprets that either a plurality of hexagons or a honeycomb pattern read on the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,565,892 to Feustle in view of US 7,263,268 to Inditsky and in view of US 2002/0195936 to Kato.

Regarding claims 1 and 3, Feustle teaches a display device and method for making a display device that includes a light transmitting sheet having first and second opposed parallel surfaces (Figures 2 and 3D) in which a matrix of markings (8) is applied to at least one of the first and second surfaces which comprises a series of lines (8) extending between opposed edges of the sheet (Figures 2 and 3D). Feustle does not teach a source of illumination at an edge of the sheet. Inditsky teaches a source of illumination at the edge of a light transmitting sheet (column 1, lines 22-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the source of illumination of Feustle at the edge of the light transmitting sheet, as taught by Inditsky. The motivation would have been to increase the luminous uniformity and to allow for the reduction in device thickness (column 1, lines 22-33). Feustle also does not teach that the thicknesses of the lines increase with increasing distance from the source of illumination so as to obtain an increased intensity of illumination at selected areas of the sheet. Kato teaches an increase in thickness of

lines results in an increase in display intensity (paragraph 7). It would have been obvious to one of ordinary skill in the art at the time of the invention to increase the thicknesses of the lines of Feustle with increasing distance from the source of illumination, as suggested by Kato. The motivation would have been to further increase luminous uniformity.

Regarding claims 2 and 4, Feustle teaches a matrix of markings (8) applied to each of first and second surfaces so as to cover at least a major proportion of each surface (Figures 2 and 3D).

Regarding claim 5, Feustle teaches that the sheet of light-transmitting material is generally rectangular form and there is a first series of lines extending between two of the opposed edges of the sheet and a second series of lines extending between the other two opposed edges of the sheet (Figures 2 and 3D).

Regarding claim 6, Feustle teaches that the two series of lines intersect such that the matrix is in the form of a honeycomb pattern (column 2, lines 21-34 and column 3, lines 36-50).

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feustle in view of Inditsky and in view of US 6,330,111 to Myers.

Regarding claim 7, Feustle teaches a display device that includes a light transmitting sheet having first and second opposed parallel surfaces (Figures 2 and 3D) which includes a matrix (8) applied to at least one of the first and second surfaces and in which the matrix is of a honeycomb form (column 2, lines 21-34 and column 3, lines

36-50). Feustle does not teach a source of illumination at an edge of the sheet. Inditsky teaches a source of illumination at the edge of a light transmitting sheet (column 1, lines 22-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the source of illumination of Feustle at the edge of the light transmitting sheet, as taught by Inditsky. The motivation would have been to increase the luminous uniformity and to allow for the reduction in device thickness (column 1, lines 22-33). Feustle also does not teach that the matrix comprises a plurality of interengaging hexagons. Myers teaches a display device comprising a matrix with a plurality of interengaging hexagons (Figure 4A and column 6, lines 10-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the matrix comprising a plurality of interengaging hexagons, as taught by Meyers, in the device of Feustle. The motivation would have been to improve individual activation of the matrix cells (column 6, lines 10-25).

Regarding claim 11, Feustle teaches the limitations of the base claim 7. Feustle does not specifically teach that a computer-controlled system is used for choosing the thicknesses of the lines and/or the sizes of the honeycomb. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a computer-controlled system to choose the thicknesses and/or sizes of the honeycomb, since it has been held that broadly providing an automated means for replacing a manual activity which has accomplished the same result involves only routine skill in the art. In re Venner, 120 USPQ 192. The motivation would have been to more easily and quickly control the intensity of the display.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feustle in view of Inditsky and in view of Myers as applied to claim 7 above, and further in view of US 6,937,399 to Takahashi.

Regarding claim 8, Feustle in view of Inditsky, Kato, and Myers renders obvious the limitations of the base claim 7. Feustle does not teach that the light-transmitting sheet is of an acrylic material. Takahashi teaches a display device formed of a matrix in which a light-transmitting sheet is of an acrylic member (column 2, lines 11-62 and column 6, lines 3-29). It would have been obvious to one of ordinary skill in the art at the time of the invention to make the sheet of Feustle of acrylic material, as taught by Takahashi. The motivation would be to increase the transparency, and therefore the light transmission, of the sheet.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feustle in view of Inditsky and in view of Kato as applied to claim 2 above, in view of US 2002/0003928 to Bischel et al.

Regarding claims 9 and 10, Feustle in view of Inditsky and Kato renders obvious the limitations of the base claim 2. Feustle also teaches markings (8). Feustle does not teach that the markings are applied by inkjet printing or by stencil, transfer, laser printing or engraving. Bischel teaches a display device formed of a matrix where markings are applied by inkjet printing or stencil, transfer, laser printing, or engraving (paragraphs 2, 26, 49, 51, 67, 68, 70, 71, 85, 86, and 89). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the markings of Feustle by

inkjet printing, as taught by Bischel. The motivation would have been to improve the precision of location of the application of the markings.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY BLEVINS whose telephone number is (571)272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry M. Blevins/
Examiner, Art Unit 2883

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FGF/jmb